JDB

固体润滑轴套
SOLID LUBRICANT-INLAID BUSHING

结构特性及用途
Structure Characteristics and Applications

该产品以特殊配方的高力黄铜为基体有很高的力学性能、铸造性能良好、耐蚀性较好，表面按一定的角度和密度镶嵌特殊配方 的固体润滑剂，经精密加工而成。产品广泛应用于注塑机、连铸机、矿山机械、船舶、气轮机等。

It is backed with strengthening brass that has good physical performance and good capability for casting. What's more, the brass backing has pretty good anti–erosion ability in air, fresh water and seawater. The surface is regularly and finely machined with sockets in which particular solid lubricant is filled. The product is widely used on consecutive casting and rolling machines, mine–exploiting equipments, ships, steam engine, etc.

轴承高度和壁厚的设计
Bearing design height and thickness

轴承高度：轴承内径是由对磨轴的轴径所决定，所以在受载荷条件下，轴承高度受轴承承载压力P(N/mm^2)所决定，一般轴承以L/D(轴承高度/轴承内径)的比例在0.5–3的范围内为适当，但应特别注意在高载荷，易引起偏位接触，高转速时引起的发热情形，此时L/D取1以下较适当。

轴承壁厚：滑动轴承跟滚动轴承相比，其壁厚限制较小，壁厚薄为其主要的优点之一。一般情况下， 壁厚t=(0.05~0.07) d+(2~5)mm 。

Bearing Height: bearing diameter from the shaft, the shaft is determined, so by loading conditions, load bearing by bearing a high pressure P (N/mm^2) of the decision, usually bearing the L/D (bearing height / bearing diameter), the ratio in the range of 0.5–3 for the appropriate, but should pay particular attention to the high load, easy cause deviation contacts, high–speed situations caused by heat, then L/D is more appropriate to take the following 1.

Bearing wall: plain bearings with rolling bearings compared to the wall thickness less restricted, thin wall thickness of one of its main advantages. Under normal circumstances, the wall thickness t =(0.05 ~ 0.07) d + (2 ~ 5) mm.

使用注意事项
Caution

1. 装配前，若以润滑油涂于磨件上，可减短走合期，利于机械操作、运转；

2. 装配时请擦干净表面异物，最好采用冷冻装配，如无条件，则应徐徐压入，严禁敲打，以免伤及轴承及引起变 形；

3. 使用后的工作面，因固体润滑剂形成的油膜导致表面有黑色或灰黑色现象，请不要擦洗，照常使用；

4. 工作环境具有腐蚀性的场合或在水中使用时，对磨轴建议使用不锈钢或表面镀铬。

1 Before assembly, on the terms of lubricant applied to the grinding parts can be cut short walk in period, is conducive to operation of machinery, running;

2. clean the surface of the assembly when foreign body, preferably refrigerated assembly, such as unconditional, they should slowly push, non–beating, to avoid harming the bearings and cause deformation;

3. Face after use, due to solid lubricant film lead to the formation of black or gray surface phenomenon, do not scrub, as usual;

4. working environment where corrosive or in water use, the shaft is recommended the surface of stainless steel or chrome.

参数 Parameters	**JDB-1** 镶嵌式固体润滑轴承 Embeded Solid Lubricating Bearings	**JDB-2** 镶嵌式固体润滑轴承 Embeded Solid Lubricating Bearings	**JDB-3** 镶嵌式固体润滑轴承 Embeded Solid Lubricating Bearings	**JDB-4** 镶嵌式固体润滑轴承 Embeded Solid Lubricating Bearings	**JDB-5** 镶嵌式固体润滑轴承 Embeded Solid Lubricating Bearings
					
成分牌号 Chemical Compositions	CuZn25Al6Fe3Mn3	CuSn6Zn6Pb3	Steel+CuSn6Zn6Pb3	HT250	GCr15
摩擦因数 Friction coef	＜16 μ	＜15 μ	＜14 μ	＜18 μ	＜17 μ
线膨胀系数 Dilatability	1.6–2.0 10^{-5}/℃	1.6–2.0 10^{-5}/℃	1.6–2.0 10^{-5}/℃	1.7–1.9 10^{-5}/℃	1.6–1.8 10^{-5}/℃
硬 度 Hardness	210–250HB	80–120HB	60–90HB	180–230HB	HRC55–60
最高滑动速度 (无润滑) Velocity Max. (dry)	0.4 (m/s)	2 (m/s)	2 (m/s)	0.5 (m/s)	0.1 (m/s)
最高滑动速度 (油润滑) Velocity Max. (Oil)	5 (m/s)	10 (m/s)	10 (m/s)	5 (m/s)	3 (m/s)
最高PV值 (无润滑) Max PV Value (dry)	1.8 N/mm^2 – m/s	1.8 N/mm^2 – m/s	1.8 N/mm^2 – m/s	1.8 N/mm^2 – m/s	1.8 N/mm^2 – m/s
最高PV值 (油润滑) Max PV Value (Oil)	1.8 N/mm^2 – m/s	1.8 N/mm^2 – m/s	1.8 N/mm^2 – m/s	1.8 N/mm^2 – m/s	1.8 N/mm^2 – m/s
最高使用温度 Temperature Max.	300℃	350℃	300℃	400℃	350℃
适用情况 Applicable conditions	高载荷 High load 低速 Low speed 一般用 Commonly used	低载荷 Low load 高温 High Temp. 低速 Low speed	低载荷 Low load 高温 High Temp. 低速 Low speed 节约成本 Cost Saving	高载荷High load 低速low speed	低载荷 Low load 低速 Low speed

固体润滑剂
Solid Lubricant

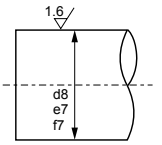
固体润滑剂 Lubricant	特性 Features	典型用途 Typical application
高纯石墨+添加剂 SL1 Graphit+add	很好的耐磨性和化学稳定性，使用温度 <400℃ Excellent resistance against chemical attacks and low friction, Temp limit 400℃	应用于一般机械，在大气中使用 Suit for general machines under atmosphere
Sl4+MoS_2 PTFE+MoS_2+CF	极低的摩擦系数和良好的睡润性，使用温度<300℃ Lowest in friction and good of water Lubrication, Temp limit 300℃	应用于水、海水润滑、如船舶 Suit for water and seawater lubricanting

固体镶嵌自润滑轴承典型应用
Typical Applications

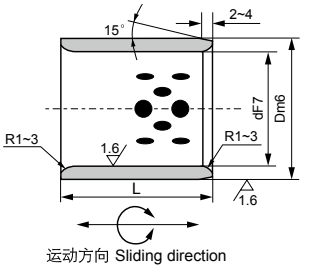
工程机械
Engineering Machinery

塑料机械
Engineering Machinery

JDB 固体润滑轴承
JDB Solid Lubricating Bearings

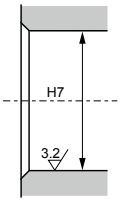


相配轴
Mating Shaft



运动方向 Sliding direction

材质	高力黄铜＋石墨
Material	CuZn25Al6Mn4+ Graphite



相配座孔
Mating Housing

单位unit:mm

d	公差 (F7)	D	公差 (m6)	L 0.10 0.30																			
				8	10	12	15	20	25	30	35	40	50	60	70	80	90	100	120	140	160	180	200
8	+0.028 +0.013	12	+0.018 +0.007	●	●	●	●																
10		14		●	●	●	●	●															
12		18		●	●	●	●	●	●														
14	+0.034 +0.016	20			●	●	●	●	●	●													
16		22	+0.021 +0.008		●	●	●	●	●	●	●	●											
20		28				●	●	●	●	●	●	●											
20		30				●	●	●	●	●	●	●											
25	+0.041 +0.020	33					●	●	●	●	●	●	●										
25		35					●	●	●	●	●	●	●										
30		38	+0.025 +0.009					●	●	●	●	●	●										
30		40						●	●	●	●	●	●										
35		45							●	●	●	●	●	●									
40		50							●	●	●	●	●	●	●								
40		55							●	●	●	●	●	●	●	●							
45	+0.050 +0.025	55							●	●	●	●	●	●	●	●							
45		56							●	●	●	●	●	●	●	●							
45		60							●	●	●	●	●	●	●	●							
50		60	+0.030 +0.011						●	●	●	●	●	●	●	●							
50		65							●	●	●	●	●	●	●	●							
55		70								●	●	●	●	●	●	●	●						
60		75								●	●	●	●	●	●	●	●						
65		80									●	●	●	●	●	●	●	●					
70	+0.060 +0.030	85									●	●	●	●	●	●	●	●					
70		90									●	●	●	●	●	●	●	●					
75		90									●	●	●	●	●	●	●	●	●				
75		95	+0.035 +0.013								●	●	●	●	●	●	●	●	●				
80		100										●	●	●	●	●	●	●	●	●			
85		100										●	●	●	●	●	●	●	●	●			
90		110										●	●	●	●	●	●	●	●	●			
100	+0.071 +0.036	120											●	●	●	●	●	●	●	●	●		
110		130											●	●	●	●	●	●	●	●	●		
120		140												●	●	●	●	●	●	●	●		
130		150	+0.040 +0.015											●	●	●	●	●	●	●	●		
140		160													●	●	●	●	●	●	●		
150	+0.083 +0.043	170													●	●	●	●	●	●	●		
160		180													●	●	●	●	●	●	●	●	
170		190														●	●	●	●	●	●	●	
180		200	+0.046 +0.017														●	●	●	●	●	●	●
190	+0.096 +0.050	210															●	●	●	●	●	●	●